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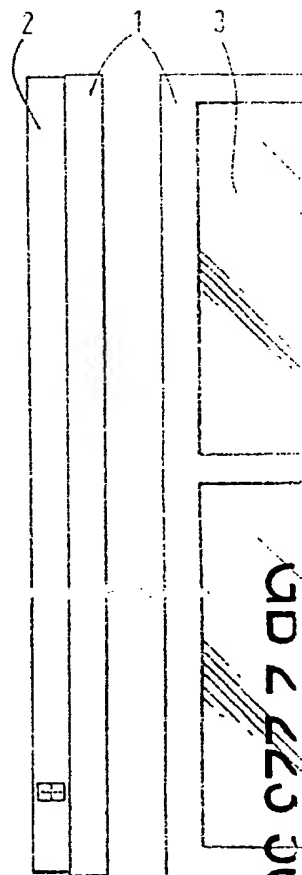
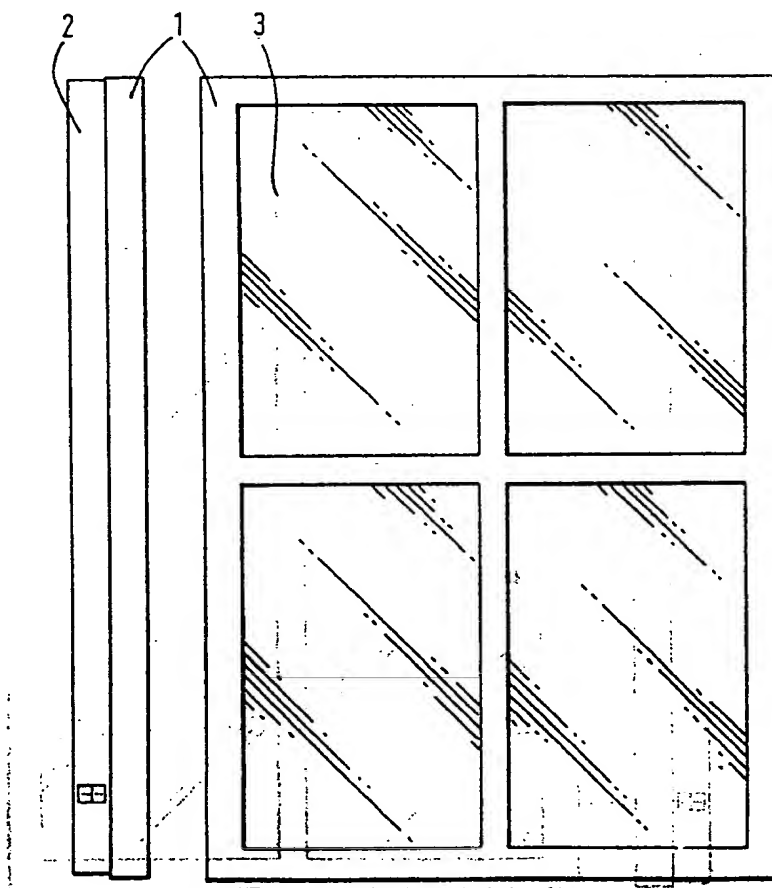
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(54) Wall-mounted luminaire for the treatment of seasonal affective disorders

(57) A wall-mounted luminaire with a front-frame 1 and an opal diffuser 3 giving the appearance of a sunlit window with sufficient light intensity to provide the therapeutic dose for the treatment of Seasonal Affective Disorder by phototherapy

FIG.1.



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FIG.1.

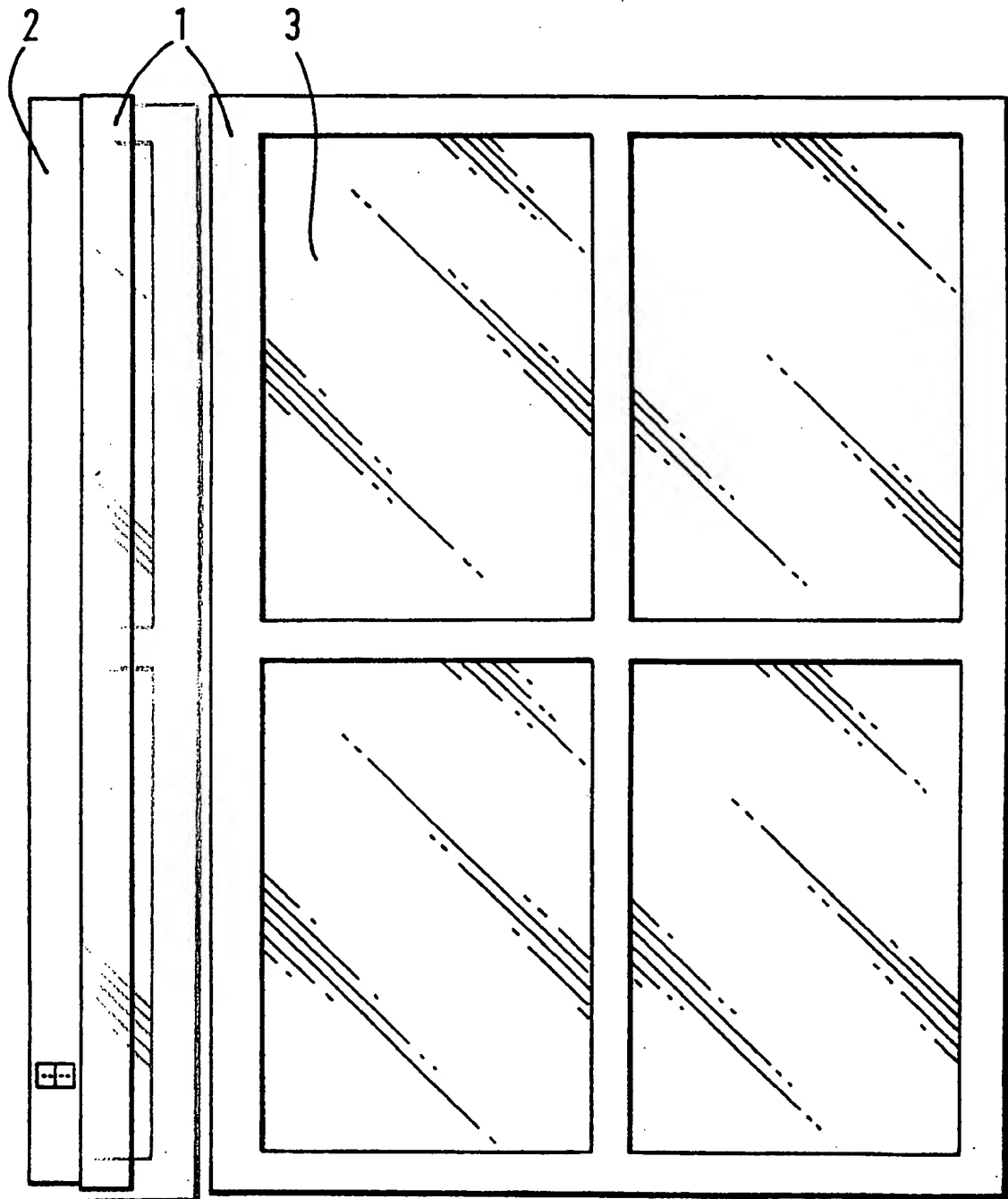


FIG. 2.

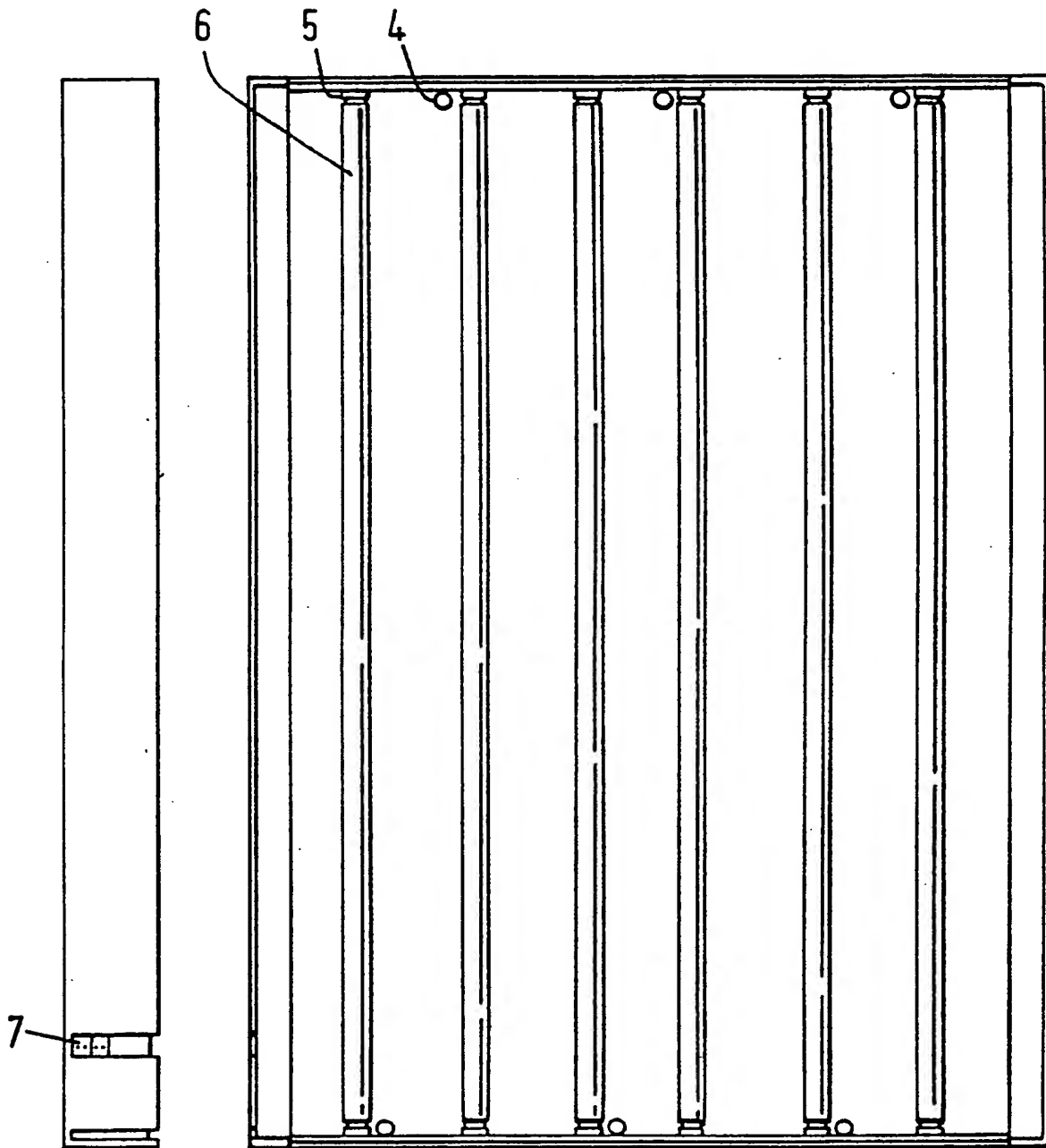


FIG. 3

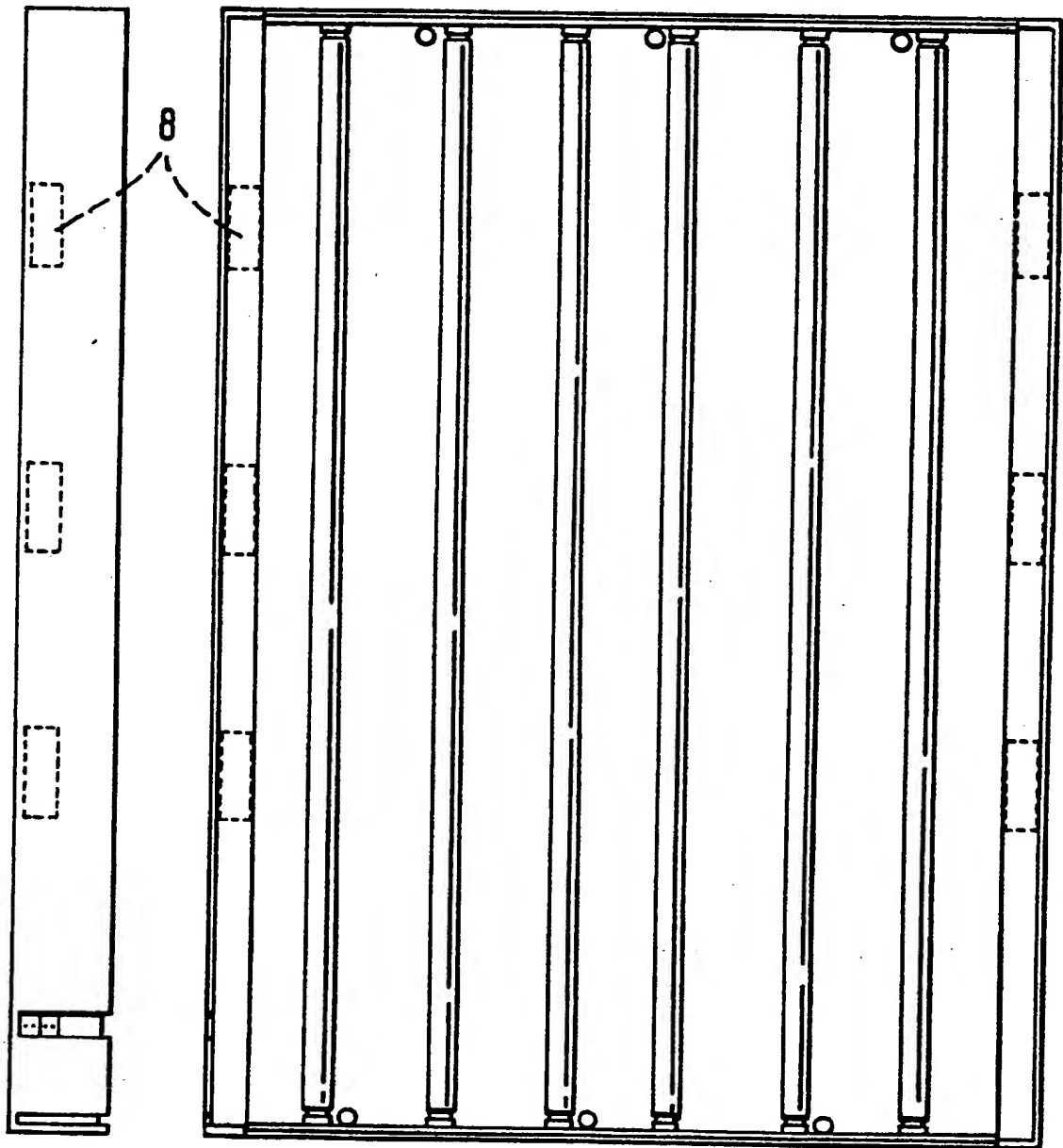
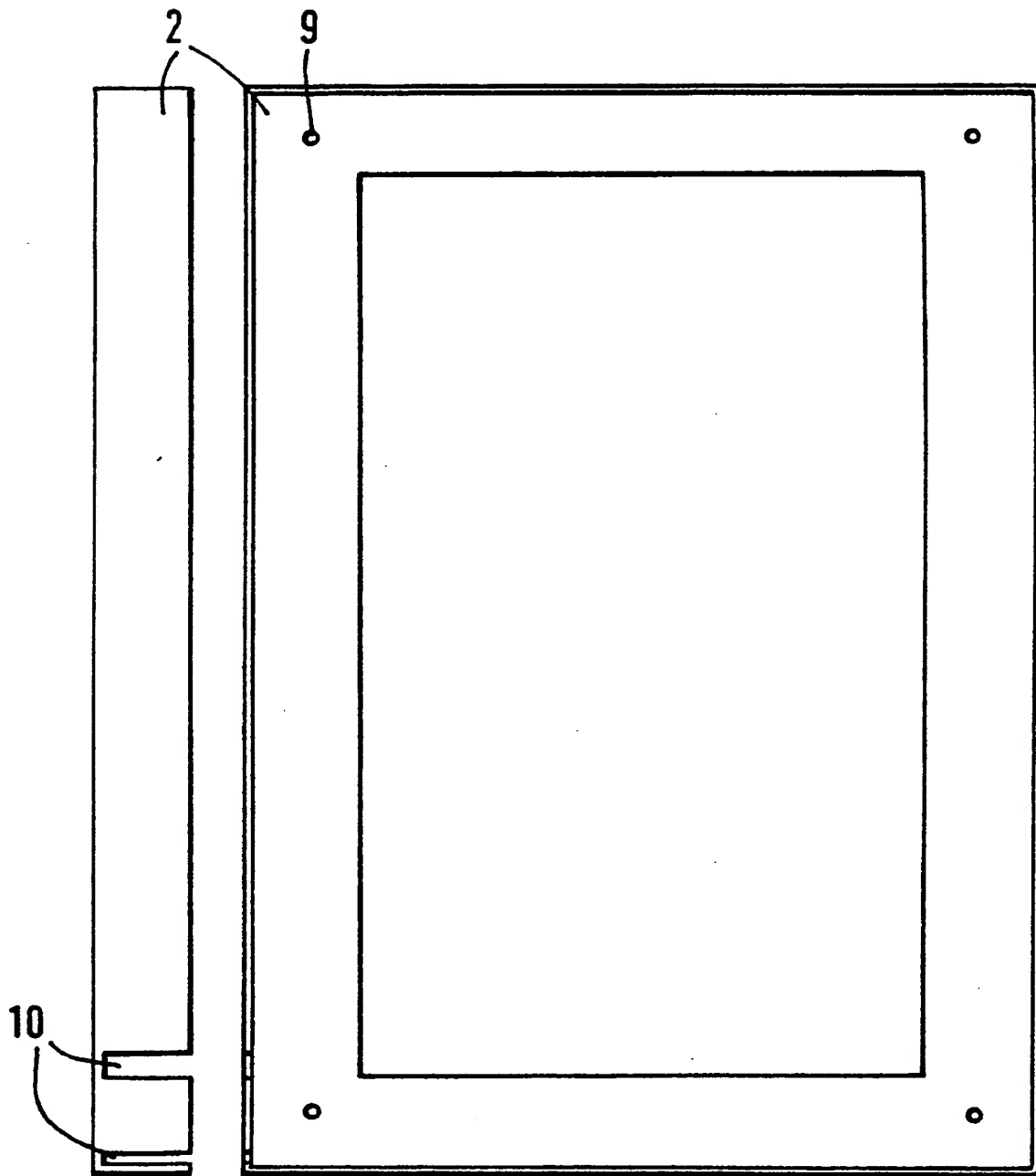


FIG.4.



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WALL-MOUNTED LUMINAIRE FOR THE TREATMENT OF
SEASONAL AFFECTIVE DISORDER

This invention relates to a wall mounted luminaire for the treatment of Seasonal Affective Disorder (S.A.D.).

Seasonal Affective Disorder is a form of seasonal mental depression which affects patients in winter and which has been shown to be relieved by phototherapy, namely by exposure to bright light (2500 lux) for more than 2 hours/day. For a recent review, see Lewy A.J. and Slack R.L. (1986), Proc. Soc. Exper. Biol. and Med. 183: 11-18 and Abas M. and Murphy D. (1987) Brit. Med. J. 295:1504.

S.A.D. sufferers present with depressive symptoms which are generally classified as atypical. Seasonal sleep disturbance (sleeplessness or over-sleeping), seasonal weight gain and carbohydrate craving are characteristic. S.A.D. appears to predominantly affect women (80% of diagnosed sufferers are female), but the age range is very broad: from late teens to seventies. The degree of depression rarely requires hospitalisation but is severe enough to cause serious social and professional problems (e.g. loss of employment, divorce).

Research has shown that phototherapy is a simple and effective treatment, with results obtained within a few days. The treatment is inherently safe. Depending on the stringency of the score procedure, cure is obtained in 40-85% of patients diagnosed with S.A.D.

The mechanism by which phototherapy works is still unclear. It is known that the effect of light is mediated through the

eyes, and there is some, but yet inconclusive, indication that melatonin hormone levels may be affected by phototherapy.

Phototherapy is usually accomplished by means of a light box containing four to eight fluorescent lamps, 600 to 1200mm long. Patients are required to spend up to 6 hours/day a few feet away from the source of light, and to scan the light box every few minutes. A therapeutic level of 2,500 lux is generally accepted although some studies have indicated that lower levels may be effective. An intensity level of 1,000 lux has been shown to alter melatonin blood levels. A light intensity much greater than 2,500 lux may cause eye irritation or damage. Full spectrum fluorescent lamps which mimic the spectral content of daylight are often used in the treatment of S.A.D., but a recent study has shown that standard fluorescent lamps are as effective as full spectrum lamps (Lewy A.J. et al., 1987, Science 235:352-354, footnote 17). Standard fluorescent lamps are not as expensive as full spectrum lamps so that the use of standard lamps in this application should bring phototherapy within reach of many more sufferers. Most light boxes in use for the treatment of S.A.D. are converted sun-lamps or converted photographic light boxes.

According to the present invention, there is provided a luminaire designed for wall-mounting, which has the appearance and dimensions of a window and when powered, has the appearance of a sun-lit window, the light produced by the luminaire being of a therapeutic intensity for the treatment of S.A.D. and sufficiently diffuse to prevent glare.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 shows the front and side elevation of the luminaire. Overall dimensions of the example are 640mm x 940

mm x 85 mm and construction is of powder-coated sheet metal. 1. Front frame with cross-bar giving the luminaire the appearance of a window. 2. Sub-frame which is fixed to the wall. 3. Diffuser: 3 mm thick opal acrylic (ICI 040) attached to the front-frame by means of double-sided sticky pads at the corners, at the ends of the cross-bar and at the centre of the cross-bar.

Figure 2 shows a front and side elevation of the luminaire after removal of the front frame, revealing the electrical gear tray. 4. One of the 6 lamp starters attached to the electrical gear-tray 5. One of the 12 lamp holders attached to the gear-tray. The gear tray is of a white reflective colour. 6. One of the 6 fluorescent lamps (900mm by 26mm diam. and a power rating of 30W each, such as Philips MCFE 30W/29) 7. Switches which enable the lamps to be switched in two alternating sets of three. The switch box is fixed to the gear-tray. The switches are reached through cut-outs in the subframe. A further cut-out in the subframe is provided for the power cable.

Figure 3 shows a front and side elevation of the luminaire after removal of the front frame. The position of the electrical ballasts (8) is shown. They are mounted under a flange in the gear-tray so as to be hidden. The electrical cabling is not shown.

Figure 4 shows a front and side elevation of the luminaire after removing the front frame and the gear tray. The subframe 2 with the wall-mounting holes 9 can be seen. Cut-outs for the switch box and for the power cord are shown 10. The use of a subframe in this construction means that the object affixed to the wall is light and can therefore easily be held in place while marking the wall-mounting positions for wall-preparation.

The prototype has been tested by the British Standards Institution and was shown to produce 2650 lux at 914mm from the front face of the luminaire.

CLAIMS

1 A wall-mounted luminaire having the appearance of a window.

2 A wall-mounted luminaire having the appearance of a window and of a sun-lit window when powered.

3 A wall-mounted luminaire as claimed in Claim 1 or Claim 2 providing sufficient light intensity to reach the therapeutic level for the treatment of Seasonal Affective Disorder, such therapeutic intensity being 2500 lux at 914mm from the front face of the luminaire.

4 A wall-mounted luminaire as claimed in Claim 3 provided with a diffuser to reduce glare.

5 A wall-mounted luminaire as in Claim 4 containing fluorescent lamps of a combined power rating of at least 180 watts.

6 A wall-mounted luminaire as in claim 4 of sheet metal construction with three metal parts including a front-frame, a gear-tray and a subframe.

7 A wall-mounted luminaire substantially as described herein with reference to Figures 1-4 in the accompanying drawings.